

Claims

We claim:

- 5           1.     A reaction mixture comprising a surface adsorbing polymer in a buffered solution, wherein:
- a)     the quantity of said surface adsorbing polymer of said reaction mixture reduces adsorption of an organic material to a surface;
- b)     said surface adsorbing polymer binds non-covalently to said surface;
- 10           c)     said surface adsorbing polymer is not one of the reactants of said fluid operation or is added in excess of the amount normally added to said reaction mixture; and
- d)     said surface adsorbing polymer does not inhibit the fluid operation.
2.     The reaction mixture according to claim 1, wherein said reaction mixture is for
- 15     use in a fluid operation selected from the group consisting of a mixing step, an incubation, a dilution, a titration, a detection, a drug screening assay, a binding assay, a measuring assay and a biochemical reaction.
3.     The reaction mixture according to claim 2, wherein said reaction mixture is
- 20     selected from the group consisting of a Polymerase Chain Reaction mixture, a Ligase Chain Reaction mixture, a primer extension reaction mixture, a genotyping reaction mixture and a microsequencing mixture.
4.     The reaction mixture according to claim 1, wherein said surface adsorbing
- 25     polymer has a molecular weight of at least  $5 \times 10^4$  daltons.
5.     The reaction mixture according to claim 2, wherein said surface adsorbing
- polymer has a molecular weight of at least  $5 \times 10^4$  daltons.
- 30           6.     The reaction mixture according to claim 3, wherein said surface adsorbing
- polymer has a molecular weight of at least  $5 \times 10^4$  daltons.

7. The reaction mixture according to claim 4, wherein said surface adsorbing polymer has a molecular weight of at least  $1 \times 10^6$  daltons.

5 8. The reaction mixture according to claim 5, wherein said surface adsorbing polymer has a molecular weight of at least  $1 \times 10^6$  daltons.

9. The reaction mixture according to claim 6, wherein said surface adsorbing polymer has a molecular weight of at least  $1 \times 10^6$  daltons.

10 10. The reaction mixture according to claim 1, 2, 3, 4, 5, 6, 7, 8, or 9, wherein said surface adsorbing polymer is selected from the group consisting of polyacrylamides, N-isopropylacrylamides, polydimethylacrylamides, propylene glycols, ethylene glycols, polypropylene glycols, polyethylene glycols, propylene oxides, ethylene oxides, polypropylene oxides and polyethylene oxides, polydimethylsiloxanes and polyvinylpyrrolidones.

15 11. The reaction mixture according to claim 1, 2, 3, 4, 5, 6, 7, 8, or 9, wherein said surface adsorbing polymer is a block-copolymer comprising two or more polymers selected from the group consisting of polyacrylamides, N-isopropylacrylamides, polydimethylacrylamides, propylene glycols, ethylene glycols, polypropylene glycols, polyethylene glycols, propylene  
20 oxides, ethylene oxides, polypropylene oxides and polyethylene oxides, polydimethylsiloxanes and polyvinylpyrrolidones.